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ABSTRACT

This position paper argues that sex discrimination still exists in education although Title IX legislation in 1972 and other subsequent legislation prohibits sex discrimination in educational programs that receive federal funds. Greater awareness of gender issues is needed along with an understanding of strategies for change. The Fastback offers a cyclical model for eliminating gender inequity, incorporating the stages of: (1) awareness; (2) analysis; (3) action; and (4) assessment. Strategies that various key individuals and responsible groups can implement to make a positive difference for both sexes, but particularly for girls and women, are described. Research on the topic is analyzed focusing on the key concerns of: (1) low self-esteem; (2) low academic achievement; and (3) low aspirations or limited educational and career goals for a high percentage of females. Recommendations for curricular considerations and teacher education are included. (EH)

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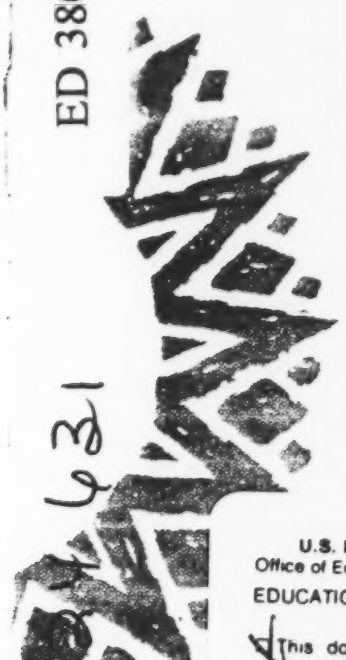

Gender Equity in Education

Eileen Veronica Hilke
Carol Conway-Gerhardt

SO 024 431

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Gender Equity in Education

by
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and
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Introduction

The issue of gender equity has been on the education forefront since the 1972 passage of Title IX legislation prohibiting sex discrimination in educational programs that receive federal funds. Since that time, several pieces of related legislation have been passed; but gender inequity continues to exist in schools. In fact, many articles, television broadcasts, and radio discussions have alerted the public to the need for gender equity in the school, workplace, and community.

Following are a few of the concerns that are addressed by advocates of gender equity:

- Girls start school academically ahead of boys but finish school academically behind boys.
- By high school, self-esteem in females falls dramatically.
- Males outperform females in the American College Testing Program (ACT) and on the Scholastic Aptitude Test (SAT).
- Math and science fields are dominated by males.

To counteract inequity, educators need a greater awareness of gender issues and an understanding of strategies for change. Through a cyclical model of awareness, analysis, action, and assessment, various individuals and responsible groups – such as school boards, administrators, and teachers – can make a positive difference for both sexes, but in particular for girls and women. This fastback provides practical suggestions for new and experienced classroom teachers to develop gender equitable classrooms. Parents, too, can learn various strategies to assist the process.

Defining Gender Equity

The term *gender equity* is defined as follows:

Gender encompasses not only the concept of sex, but also the social and cultural meanings attributed to being female or male. Embedded in every social interaction is an underlying sexuality; thus the sex(es) of the persons engaged in the interaction, even though seeming to have no direct relation to what is going on, actually may be central to the interaction. According to researchers Biklen and Pollard, "Gender is the social construction of sex" (1993, p. 1).

Equity means "justice, impartiality, the giving or desiring to give each person his or her due," according to *Webster's Unabridged Dictionary*. Concern about gender equity arises from the differentiated expectations that people hold for females and males, based solely on sex difference. *Gender equity* and *sex equity* often are defined similarly.

For example, the Affirmative Action definition for *gender equity* is "the elimination of sex-role stereotyping and sex bias from the educational process, thus providing the opportunity and environment to validate and empower individuals as they make appropriate career and life choices."

Bitters and Foxwell (1990) define *sex equity* as "freedom from favoritism based on gender. Achieving sex equity enables both women and men of all races and ethnic backgrounds to develop skills needed in the home and in the paid labor force, and that suit the individual's 'informed interests' and abilities."

A typical school policy definition for *gender equity* is "equal education free of discrimination on the basis of sex. It means helping

students free themselves from limiting, rigid, sex-role stereotypes and sex bias. It means students will understand, think about, and prepare for a future characterized by change, especially in male and female life roles, relationships, and careers" (Sheboygan Area School District 1991)

Several pieces of legislation have made gender equity a legal requirement. The basis of this legislation is Title IX of the Educational Amendments Act of 1972, which prohibits discrimination based on sex in educational programs that receive federal funds. Regulations were issued in 1975 that cover many implementation issues, from admissions and employment in higher education to athletics, course offerings, counseling, and differentiated treatment of students in elementary and secondary schools (Rebell and Murdaugh 1992).

A comprehensive effort to infuse equity into education programs began in 1976 with the Vocational Education Act, which requires each state to hire an individual to oversee the implementation of gender equity initiatives in the vocational education system. The Career Education Incentive Act of 1977, which is no longer operational, had a goal to eliminate sex-role stereotyping and bias from career education materials. It was superseded in 1978 by Title IV, under which Sex Desegregation Technical Assistance Grants were provided to local education agencies to deal with sex desegregation. Over the next decade, the impact of this legislation waned. But in 1987, the Department of Education resumed providing grants to help schools and communities deal with race, sex, and national origin biases. These grants took their impetus from earlier legislation, the Civil Rights Act of 1964.

The Carl D. Perkins Vocational Education Act of 1984 emphasized making vocational education accessible to all students. Grants were developed for single parents, homemakers, and young women. Equity program grants were intended to encourage self-sufficiency and eliminate sex-role stereotyping and discrimination in vocational education (Bitters and Foxwell 1990, pp. 15-17).

How Gender Inequity Affects Females

It will be helpful to examine gender inequity in order to understand gender equity. In the late 1980s the American Association of University Women conducted a poll of 3,000 school children. The association's subsequent report, *Shortchanging Girls, Shortchanging America* (1990), declared that girls face a pervasive bias against them from preschool through high school in textbooks, teachers, and tests.

A further synthesis of 1,331 research studies about girls in schools, *How Schools Shortchange Girls* (1992), revealed that girls and boys are not treated equally in our public schools and that they do not receive the same quality, or even quantity, of education.

The key concerns that have surfaced in research by individuals and the AAUW and other organizations include: 1) low self-esteem, 2) low academic achievement, and 3) low aspirations or limited educational and career goals for a high percentage of females. Each of these concerns is discussed below.

Low Self-Esteem

Without a doubt, family and societal influences already have made impressions on children before they start school. However, formal schooling too often brings systematic, if unintentional, neglect of girls' needs in the form of diminished quality and quantity of classroom attention. The result is low self-esteem.

The 1990 AAUW study showed that, on a self-esteem comparison index, girls start somewhat lower in self-esteem than boys in elementary school and drop off dramatically by middle and high school. Sixty percent of elementary girls and 69% of elementary boys say they are "happy the way I am," a key indicator of self-esteem. By high school, girls' self-esteem falls to only 29%, while boys' self-esteem declines to 46% (American Association of University Women 1990, p. 11).

Shortchanging Girls, Shortchanging America reported:

- Teachers initiate more communication with males than with females in the classroom, strengthening boys' sense of importance.
- Teachers ask boys more complex, abstract, and open-ended questions, providing better opportunities for active learning.
- In class projects and assignments, teachers are more likely to give detailed instructions to boys and more likely to take over and finish the task for girls, depriving them of active learning.
- Boys are praised more often than girls for the intellectual content and quality of their work, while girls are praised more often for neatness and form.
- When teachers criticize boys, they often tell them that their failings are due to lack of effort. Girls are not given this message, suggesting that effort would not improve their results (pp. 19-20).

Boys appear to have greater confidence than girls in their own talents, a connecting point between feelings and actions. In fact, almost twice as many boys as girls refer to their talents as what they like most about themselves. Boys who believe they are good at sports are particularly confident; as adolescents, they rate themselves four times as highly as girls do (Schuster 1991, p. 23).

Girls often express overwhelming concern about their body image, or how they see themselves physically. The focus on physical appearance or body image seems to be a significant component of self-esteem, which peaks during adolescence. Girls are socialized at an

early age to believe that they should be thin and attractive. In fact, girls are "well aware that they are often judged on the basis of looks, whereas boys are more likely to be judged by their accomplishments or physical ability." This unrealistic and, for many girls, unattainable image is reinforced continually. From magazines to television and music videos, the "ideal woman" typically is portrayed as "white, tall, most often blond, and above all thin" (Jaffee 1991, p. 71).

Self-esteem shapes a person's ambitions and actions. Thus low self-esteem diminishes a person's future. Interactions in the educational setting coupled with "bigger-than-life" expectations from society, especially as they are portrayed in the media, help to diminish girls' self-esteem.

Low Academic Achievement

Academic achievement is so important to success in life that many parents begin to stress achievement before their children ever enter school. Also, the first communication from the school to parents often conveys some assessment of achievement. Thus a key question in gender equity is to what extent actual gender differences and differentiated treatment of boys and girls affect academic achievement.

Myra Sadker (1991) summarized the situation by indicating that elementary school girls are equal to or ahead of boys in every academic area, even math and science; but as they progress through school, girls fall behind boys, especially in math and science. Middle school seems to be the point at which boys forge ahead and girls fall behind (p. 42).

Often, what occurs is differentiated treatment for boys and girls. For example, when boys and girls have similar math scores, boys are more likely to be assigned to the highest ability group than are girls (Scott and McCollum 1993). Similarly, during science projects, "girls spent 25% less time than boys manipulating the equipment and four times as much time watching and listening" (p. 179).

In general, females earn higher grades on essays and score higher on Advanced Placement (AP) essay examinations. However, males score higher on the AP multiple-choice questions and, as a result, earn overall higher AP test scores. Analysis of this information indicates that performance on the multiple-choice section of the AP test underpredicts college grades for females, while essay test results are equally predictive for both sexes (Linn 1991, pp. 14-16).

When colleges assess the likely success of applicants, they usually use standardized tests. Sadker says, "Currently, according to standardized tests, males score better than females in both math and verbal sections of the Preliminary Scholastic Aptitude Test (PSAT) and the Scholastic Aptitude Test (SAT) and in most of the achievement tests students need to take to get into highly selective colleges" (1991, p. 42). Based on the American College Test-English (ACT-E) and the Scholastic Aptitude Test-Verbal (SAT-V), research shows that there are gender differences associated with cognitive responses. Males better discriminate among responses on multiple-choice questions, while females are better at organizing diverse ideas and writing effectively.

Female college graduates who plan to attend graduate or professional school do not score as well as males on the math and verbal sections of the Graduate Record Exam, the MCAT (for entrance into medical school), or the GMAT (for entrance to business school). However, in subsequent coursework, females get better grades than males. Some theorists contend that this occurs because standardized tests are biased against women. Others point to research that shows females are more likely to get high grades not just because of achievement, but also because of passive accepting behavior (Sadker 1991, p. 42). Statistics show that females earn slightly higher grades in high school and college mathematics courses, including the most advanced courses. "Within groups having the same course experience, males earn higher [test] scores while females earn higher grades" (Linn 1991, p. 22-23).

Recent research by A.M. Gallagher cites another factor, pointing to the males' confidence in their mathematical abilities and females' lack of confidence as a motive for females to conform more readily to course expectations and to follow class procedures (Linn 1991, p. 29).

Pollard, who focused on analyzing gender differences in academic achievement, considered biological, sociocultural, psychological, and experiential factors. Out of her work, she concluded that such research is hampered by three problems: 1) inconsistent data on sex differences and achievement, 2) limited discussion of gender and achievement beyond the white middle class, and 3) inadequate attention to the relationship between achievement in the school and the workplace (Pollard 1993, p. 94).

Pollard pointed out, for example, that grade point averages from a large sample of seventh- and eighth-graders show that gender-role identity influences achievement more than biological sex does. Additionally, Pollard observed that studies of middle-class, white females overlook racial, ethnic, and socioeconomic factors. Pollard also found "that women between the ages of 25 and 32, who earned bachelor's degrees, were more likely to be unemployed (but looking for work) than men; and when employed, were more likely to be in lower paying jobs than men. Furthermore, when women held jobs similar to those men held, they earned less" (p. 96).

Pollard's research on gender differences in academic achievement reveal that the relationships among influential factors are truly multifaceted and cannot be predicted on the basis of sex alone. Despite encouraging evidence of successful academic achievement among girls and women, gender equity has not yet been achieved. Many women, Pollard believes, still are discouraged from achieving in certain areas, and others do not push themselves in school because of continuing perceptions that academic achievement is not feminine (p. 97). Even when females do achieve in school, they receive fewer rewards in the workplace. Adelman (1991) suggests that this fact sends a mes-

sage to women that their achievement does not matter and ultimately discourages them from striving to excel.

Controversy continues over whether teachers respond to behavior more than to the sex of the student. If boys are more assertive or disruptive and teachers respond to their behavior, then girls receive less teacher attention because they are less assertive or disruptive, not because they are female. Another consideration is that teachers may expect boys to achieve more or to be more disruptive and may respond to these anticipated behaviors. Whether teachers are responding to real or anticipated behaviors, the consequence is that simply providing equal access to the same courses will not result in equal treatment.

For some educators, the answer lies in creating outcome equity – that is, having girls be as assertive and performance-centered as boys are. Johnston Nicholson says that educators need to believe that "girls are ready for leadership, ready for new opportunities, ready to respond to high expectations. This implies that we should be designing programs and environments for girls that emphasize risk more than comfort" (Johnston Nicholson 1991, p. 89).

Low Aspirations/Limited Goals

Since low self-esteem hampers girls' aspirations and actions, girls often "dream less, risk less, and try less when the time comes to make crucial decisions about courses of study and choices of careers" (AAUW 1990, p. 10). In fact, the AAUW survey shows that as girls grow up, they lose confidence in their abilities, expect less from life, and lose interest in challenging classes and careers, especially in math and science (p. 23). Girls are less likely than boys to feel "pretty good at a lot of things." When polled, less than a third of the girls expressed this level of confidence, compared to almost half of the boys. A 10-point gap in confidence between boys and girls in elementary school increases to 19 points by high school (p. 26).

Although the general pubic believes that peer group pressure dominates the actions, values, and goals of teenagers, the AAUW

survey shows that adults, including teachers and parents, actually have a greater impact on adolescents, and especially on girls. Understanding this phenomenon means realizing that girls' feelings about their academic performance correlate strongly with their relationships with teachers, who are predominantly female. One conclusion is that adults, including teachers, demonstrate less faith in girls' abilities than they do in boys' abilities, causing girls to lose their sense of academic self-esteem as they grow.

Less than 50% of the girls in elementary school said they feel pride in their schoolwork, and that proportion dropped to only 12% in high school. By contrast, boys tend to perceive adults as believing that they can accomplish things; thus boys usually have higher self-esteem as they go through adolescence (AAUW 1990, pp. 29-30).

One key concern is that girls often lose out on their potential futures in math and science. The AAUW survey found a crucial – and circular – relationship among self-esteem levels, interest in mathematics and science, and career aspirations:

- Girls and boys who like mathematics and science have higher levels of self-esteem; and girls and boys with higher levels of self-esteem like math and science.
- Girls and boys who like math and science are more likely to aspire to careers in occupations where these subjects are essential.
- Girls and boys who like math and science are more likely to aspire to careers as professionals. Indeed, this relationship is stronger for girls than for boys.
- Girls who like math are more confident about their appearance and worry less about others liking them.
- Girls and boys who like math and science hold onto their career dreams more stubbornly. They are less likely to believe that they will be something different from what they want to be (p. 31).

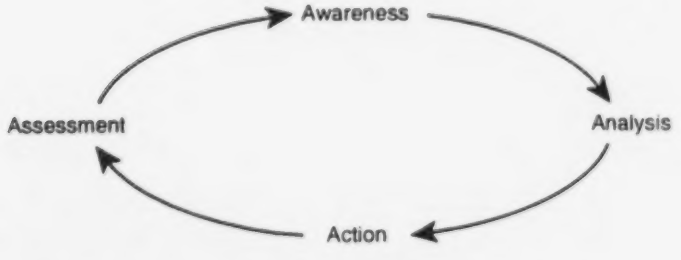
Most girls and boys start out liking math and science and having confidence in their abilities, especially in the early grades. However, by high school the percentage of girls who like math drops 20 points from 81% to 61%, while the percentage of boys who like math drops 12 points from 84% to 72% percent (AAUW 1990, p. 32). In addition, girls perceive their difficulties with math as "personal failures," as "not being smart enough." Girls have internalized society's lesson that "girls aren't good at math and science" (p. 12). The boys perceive their problems with math as math itself being either "unimportant" or "not useful" (p. 32).

Science statistics are similar. The percentage of girls who like science drops from 75% in elementary school to 63% in high school. The percentage of boys who like science starts at 82% in elementary school and drops to 72% in high school. Those girls who dislike science in high school usually say science is "uninteresting," while boys who dislike it say science is "unimportant" (Schuster 1991, p. 35).

Career aspirations, as well as educational goals, tend to reflect students' perceptions, both in terms of liking subjects and believing they can be successful in those subjects or in careers based on those subjects. The challenge for teachers and parents is to help all students – and, in particular, girls – to identify and maintain high aspirations.

A Model for Eliminating Gender Inequity

Developing gender equity can be accomplished by using a cyclical model that incorporates four stages: awareness, analysis, action, and assessment.



The first task is to create *awareness* of the inequities that exist for students, particularly females, in the school setting. A committee should be developed and charged with devising a plan to promote gender equity. That plan should be shared with and approved by the school board. As part of the plan, staff, students, families, and community members should learn about ways that students are treated differently in their homes, schools, and communities based on their gender. Discussion should include potential negative consequences of gender inequity and ways to make positive changes.

Analysis centers on the stakeholders taking a serious look at their situation – classroom, home, worksite – and determining how and

where gender inequity exists. Being aware of the problem allows each individual to isolate his or her verbal and nonverbal communications and to establish possible ways to work toward greater equity. Such analyses can be aided by gender equity checklists, videotaping for self-analysis, and peer interaction.

Taking *action* is the next step. In the classroom, this can mean simply waiting for all students – especially less demonstrative girls – to respond to a question, instead of accepting a blurted-out answer of a more aggressive student. It can mean taking positive steps toward creating a total school environment that respects all people and tolerates no put-downs.

Assessing the effects of strategies to promote gender equity will determine the next round of the cycle. *Assessment* can be accomplished through self-study and discussion, identifying specific classroom strategies and recording the results of their use, and peer coaching. The results of such assessment will direct the next awareness activity and analysis of additional needs.

Implementing the Model

In order to implement this model in schools, the school board, administrators, and teachers will play distinct roles. The following sections discuss these roles.

School Board Initiatives

Since the school board develops policies and allocates funds, it should play an integral role in developing, promoting, and implementing a gender equity plan. One way to develop awareness at the school board level is to invite a gender equity consultant to present an instructional session for board members. Such an activity may be as short as a half-hour or as extensive as a one- or two-day workshop. The awareness activity should include providing board members with information about current state and federal equity laws. This information will assist the board in understanding its legal responsibilities. In addition, a videotape of classroom situations might be useful to help board members identify specific examples of inequity. Commercially prepared videos on gender equity are available.

The board should participate in developing a gender equity team or committee, whose membership is a balanced representation of males and females from various racial and ethnic backgrounds. The team should be composed of 10 to 12 individuals drawn from the staff and the community. The purpose of this group is to analyze district poli-

cies and procedures, to broadly plan a gender equity program, and to assist in implementing the plan and then evaluating its success. The board also will need to budget for staff development, including the purchase of resource materials.

Principal Initiatives

The broad goals of the gender equity plan should allow individual administrators to develop equity objectives that are tailored specifically to their schools. Principals can make a positive impact in several areas:

School environment. Principals can sensitize staff and students to the importance of gender-fair posters, bulletin boards, and other visual materials that avoid sex stereotypes. Announcements over the school public address system and material in school publications should be gender-fair.

Staffing. Principals can take care to hire staff with males and females in all roles – teaching, clerical, food service, custodial. Employees should model gender equity awareness. Avoiding stereotyping is important, too. For example, there should be male primary teachers as well as female, and female high school science teachers as well as male.

Co-curricular activities. Principals should ensure that a balanced program of sports activities, equitably funded, is provided for boys and girls, and that co-ed sports also are available.

Parent involvement. Principals should actively involve staff and parents in the equity plan so that they feel a strong sense of ownership. The administrator can identify what already has been done and build on the efforts of the past. In addition, he or she can help to revise school policies and procedures as needed.

Staff development. Inservice programs can be arranged for teachers, counselors, and other professional staff with a focus on awareness and implementation of equity activities that can be used with students. Principals should ensure that support staff are aware of gender equi-

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ty issues and that they have strategies for equitable treatment of students and others in the school environment. Students also should be informed about gender issues and equity policies.

Inservice programs for counselors should help them challenge stereotypes and learn how to counsel women about nontraditional roles. Student internships or job shadowing can help show women in successful, nonstereotypical careers. Females should be encouraged to take courses in technology and advanced math and science, so that their future career options are not limited.

Teacher Initiatives

Teachers are the key to effective change. They should be supported by the principal. A top-down administrative mandate to be more sensitive to the role of females will not be as effective as teachers collaborating to institute change. Empowering teachers to develop activities that change expectations for both male and female students is the most effective way to see a change in the classroom environment.

Curriculum. The materials selected for classroom use and the way information is presented are important to gender equity. A review of the existing curriculum is a first step. Lessons and instructional materials should be evaluated for gender bias. Gender-neutral language is important; for example, "worker" instead of "workman."

Textbooks should portray both men and women in a positive manner. Female as well as male role models need to be represented in all resource materials. Teachers may need to check copyright dates and be aware that older materials sometimes contain gender stereotypes. Such materials can be used, but teachers also may want to use such texts as learning experiences to heighten students' awareness of gender issues.

Likewise, as teachers cooperate across departments, courses should be structured to encourage both sexes to take all classes. Boys should not be made to feel uncomfortable taking family and consumer education classes; girls should feel comfortable in technology education.

Schedules should facilitate gender equity, and classes should not be scheduled so as to force students to choose between fields.

Instruction. Students should not be divided by sex. Boys and girls should work together as lab partners and reading partners. Segregation leads to unhealthy competition. Teachers should praise students who work together cooperatively and share leadership roles.

Techniques that foster achievement and equity include: 1) coaching – assisting the learner through modeling and dialogue that develop problem-solving skills; 2) collaborative learning – fostering an environment where cooperative instead of competitive learning occurs; 3) interdisciplinary teaching – dealing with real-world problems from different subject areas; and 4) hands-on projects – allowing students to demonstrate knowledge (Vandell and Fishbein 1990, p. 4).

Technology instruction is particularly important for female students. According to Burstyn, "Our society rewards those who develop skills related to technology. So long as women are not expected to work at or accept jobs involving the use of sophisticated technology, they will be denied access to the economic and social power the jobs provide" (1993, p. 114). Some of this instruction can be done through teacher modeling, such as when a teacher uses interactive technological systems.

Many classroom activities can promote gender equity. Following are sample activities that can be adapted for a particular grade or subject.

1. Ask students to select a book and to review the text and illustrations for the roles that females and males portray. Discuss the differences between historical fiction and contemporary works. Look at the copyright date and discuss how attitudes toward gender roles have changed over time. Identify stereotypes.
2. Ask students to research three careers of interest to them. Have them determine the type of education required and write a list of personal expectations for a future job.

3. Invite a guest speaker to talk about advantages and disadvantages of a particular career. The teacher might avoid stereotyping, for example, by inviting a male nurse instead of a female nurse.
4. Ask students to watch three prime-time television shows and determine the level of respect, intelligence, and responsibility assigned to each character. If gender inequity is observed, ask students how the script might be rewritten to make the show more equitable.
5. Help students to brainstorm examples of gender stereotyping. List the ideas on the chalkboard to enhance awareness of bias.
6. Ask students to rewrite a traditional fairy tale, assigning positive traits to both male and female characters.
7. Help students design and administer a survey that asks younger children about their favorite toys and why they enjoy playing with them. Analyze the similarities and differences between boys and girls.
8. Invite students to analyze magazine ads. How are sex stereotypes used to sell merchandise?
9. Review historical fiction to analyze female roles. For younger children, read passages from such books as *Caddie Woodlawn* by Carol Ryrie Brink, *Little Women* by Louisa May Alcott, or *Little House on the Prairie* by Laura Ingalls Wilder. List the jobs that female characters perform. Compare the work and social expectations of the historical time period with today's expectations.
10. Ask students to choose a famous person they admire. List positive and negative characteristics of this person. Explain his or her job, relationships to others, and positive things done for society. Has gender either helped or hindered success?

Self-assessment. Teachers can check on their own biases by asking a colleague or the school media specialist to videotape a segment of their teaching day. Then, in the privacy of their home or classroom,

teachers can analyze their teaching behaviors. This self-check activity will enhance teachers' awareness of how they present information and interact with students. If teachers feel comfortable sharing the tape, a colleague can view the video and offer suggestions to overcome stereotyping.

Following is a self-check that will help teachers become more aware of their own biases.

- Do I treat boys and girls fairly in my classroom?
- Do I use gender-neutral or nonsexist language (for example, police officer instead of policeman)?
- Do I avoid stereotyping expressions (for example, "woman driver" meaning poor driver)?
- Do I help my students to recognize stereotyping and bias?
- Do I confront examples of stereotyping and bias when they occur?
- Is my classroom arranged for positive interaction between males and females?
- Do I call on boys and girls equally?
- Do I encourage both boys and girls to take on leadership roles?
- Do I have high expectations for females in math, science, and technology?
- Do I suggest nontraditional careers for my students?
- Are bulletin boards and posters free of stereotypes?
- Have I taken a leadership role in developing equity in my school and district?
- Am I an effective role model of gender equity for other staff?

Student-teacher interaction. Females and minorities are shortchanged, according to Myra Sadker, David Sadker, and Sharon Steindam (1989). They found that teachers from elementary school to graduate school ask males more questions and give them more feedback. They also criticize them more often and give them additional time to respond to questions (p. 47).

Myra and David Sadker (1994) proposed four basic teacher reactions to student participation: praise (positive), criticism (explicit statements that an answer is wrong), remediation (helping students to correct a problem), and acceptance (an acknowledgment, such as "okay"). These reactions need to be specific and provide students with an indication of the quality of their work. They found that girls are given more vague, neutral reactions and boys are challenged to think more carefully (Sadker, Sadker, and Stulberg 1993, p. 46).

Along with videotaping for self-assessment, teachers are encouraged to videotape their classrooms in order to assess discipline patterns and how students are reprimanded. They can analyze types of misbehavior that occur, and if boys and girls are treated in the same manner.

Teachers need to encourage female students to participate in productive classroom talk. Sandler and Hoffman (1992) suggest:

- On the first day of class, tell students you expect them to participate equally.
- Call on female students directly, even if they do not have their hands raised.
- Call on both genders in proportion to their ratio in the classroom.
- Use sufficient wait time after asking a question.
- Maintain a teaching diary of student participation in order to identify and encourage silent students (pp. 7-8).

According to Scott and McCollum (1993):

> The research on peer interaction shows that throughout schooling classroom interaction between boys and girls is infrequent. A consequence of this lack of interaction is the reinforcement of stereotypes about sex-segregated activities. Peer contacts count for about 29% of the experiences that children have in a classroom setting. (pp. 181-182)

To enhance peer interaction between the sexes, the teacher should structure group projects, foster cooperative learning, and provide opportunities for females to use equipment typically reserved for males and vice versa.

Teacher Education

Future teachers should receive training in gender equity so that, when they have their own classrooms, they will be able to model appropriate behaviors.

They need to understand gender equity legislation as a foundation to allow them to focus more clearly on the current concerns of equity. The college curriculum for teacher education should include information dealing with the contributions of both sexes, and future teachers should be aware of how males and females are portrayed in their textbooks. Textbooks in methods classes should reflect current research in the field. And the importance of gender equity should be a topic in education methods classes. Information should include selection of appropriate texts and resource materials as well as treatment of students. Human growth and development classes should include studying relationships between men and women along with stereotypes, values, and societal expectations.

The preservice curriculum should prepare future teachers to deal with gender bias in the classroom. They should develop skills through their field experiences in identifying gender issues and using instructional strategies that encourage equity. Future teachers should be able to evaluate students using gender-fair rubrics, authentic assessment instruments or projects, portfolio assessment, and traditional methods of evaluation. They should be familiar with different ways of viewing intelligence, since awareness of multiple intelligences allows

teachers to identify the differentiated strengths of males and females in their classrooms.

In addition, future teachers should receive training in career education so that they can teach employability skills and provide information about the world of work. This training should be for all teachers, from preschool through high school. Internships or field experiences in area businesses and industry can give future teachers important firsthand knowledge.

Student teaching is a critical time to check students' awareness of gender equity. College supervisors should help student teachers analyze how many times males are called on in comparison to females and whether critical thinking and analysis skills are expected of females as well as males. Student teachers also should look at their verbal and nonverbal treatment of students.

As teachers enter the workforce, female teachers also need to receive information from the career placement center about options within education. In the United States there is a shortage of female superintendents, which is a powerful position in the school structure. At the college level there are fewer female than male full professors, and fewer female college presidents. "Sixteen percent of academic women are full professors compared to 41% of men. At private universities, the numbers are even worse. Fourteen percent and 48% respectively" (Futter 1991, p. 5).

It would be an interesting project for future teachers to look at the research from other countries to see the roles of and attitudes toward women in schools and the workplace. For example, in Japan an equal opportunity law was passed in April 1986. In November 1992 the Office of the Prime Minister's Secretariat conducted a survey of 5,000 people over the age of 20 concerning opinions about equity. That survey found that only 22% of the respondents felt that equality of the sexes exists in the workplace. The survey reported even lower percentages of equality in other categories, such as politics (13%). The good news is that 61% of the respondents felt that male and female students are treated equally (Fujitake 1993, p. 25).

A second focus on teacher education is inservice training. One way to increase veteran teachers' awareness of gender equity is an awareness workshop. Such a workshop might be designed around three activities: definition, group discussion, and role playing. Following are some suggestions for the workshop coordinator:

Defining terms. Ask workshop participants to write down their definitions of terms to be used in the workshop. Terms will include: gender equity, sexism, harassment, and so on. During the workshop, define the terms and ask the participants to refer to their notes to see the similarities or differences in their definitions. Alternatively, the coordinator may wish to define the terms in advance so that everyone has the same prior knowledge. Either approach can lead to valuable discussions.

Group discussion. Pass around blank index cards and ask workshop participants to write down examples of stereotypical behavior. One example might be asking a woman in a group to be the secretary and a man to chair the group discussion. Another example might be a teacher asking the boys in a classroom to carry books back to the library while the girls straighten up the room. After the examples have been written and turned in, read some of the cards aloud and ask how the situation might be made more equitable. Small-group discussions will focus on the examples.

Role playing. Ask an equal number of males and females (4 or 6) to volunteer as students for a role-playing situation. Then role-play a lesson based on a recent news event. As you proceed, treat males and females differently. This might be in a subtle way, such as eye contact or proximity, or it can be in a more obvious way, such as calling on the males more often than the females. Ask the audience to analyze the situation and write down signs of inequitable treatment.

The workshop coordinator also should provide participants with a packet of background information, such as research summaries and suggestions for making their schools and classrooms more equitable places. The resources at the end of this fastback will be helpful.

Gender Equity and Parent Involvement

Most children have acquired a gender identity by the age of three, but full development of gender identity takes several more years; thus it is important for children to have role models who exhibit nonstereotypical behaviors (Lewis 1991, p. 3). Just as teachers confront bias in school, parents and guardians need to confront stereotypes at home.

Both boys and girls need to know that family and work roles often are assigned to one sex as a result of custom or tradition. But as they mature, they need to confront these traditions. Males need to realize that, as adults, they probably will be responsible for cooking, cleaning, and managing a household, whether they are married or single. With marriage often comes the additional responsibility of child care. Females need to be aware of how to contribute to the economic health of a family and how to balance a career with family responsibilities.

Parents also should help their children learn about future career opportunities. A wide range of employment choices are available and new technological occupations are emerging constantly. Adult family members can discuss the pros and cons of their jobs, assist the children in talking to neighbors and friends about their work, and make business and educational contacts related to occupational choice.

Parents who are involved in the school and cooperate with educators have a positive impact on their children's academic achievement (McGee Banks 1993). Families can support the schools in the effort to develop communication skills, math and science skills, global

awareness, and other elements in the curriculum that will help their children prepare for careers that might not yet exist. Taking an interest in school activities and checking to see if the schools are stereotyping are part of the parents' role.

Recent statistics indicate that many females will be in the workforce for 30 to 40 years. Therefore, it is imperative that at home and in school, girls be encouraged to plan for the future; to enroll in high-tech courses; to take a full program of science, math, and communication courses; and to investigate a wide variety of career options.

Parents should be able to analyze their own child-rearing practices and to amend them where needed. Parents and educators working together can create gender equity and effectively enhance the self-esteem and academic achievement of all students.

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